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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,280	08/19/2005	Kai Lehtonen	AWEK 3274	6610

7812 7590 11/30/2006

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EXAMINER

GIMIE, MAHMOUD

ART UNIT	PAPER NUMBER
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3747

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/541,280	LEHTONEN, KAI	
	Examiner	Art Unit	
	Mahmoud Gimie	3747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>7/1/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention. The statements "as described in the preamble of claim 1" recited on page 1, line 4, and "disclosed in claim 1 and more closely disclosed in the dependent claims" recited on page 2, lines 4-5 fail to describe the invention or show the process of making the same. These and similar statements, if present, should be deleted from the specification.

2. The specification further needs appropriate subtitles.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 8-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Mori (US 6,357,415).

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Mori discloses an arrangement (10) in the fuel injection system for controlling the fuel injection, the arrangement comprising a body part (6) having a space (61) arranged therein, through which space the fuel to be injected during operation flows, and a fuel inlet opening (361) and an outlet opening (33, 68) into the space, additionally the arrangement further comprises a piston means (30) arranged movably inside the space, the piston means having a channel (311) or the like arranged therein for creating a flow connection between the fuel inlet opening (361) and the outlet opening (33, 68), whereby in the arrangement the piston means can divide the space into a first part being in connection with the inlet opening (361) and a second part being in connection with the outlet opening (33, 68), the arrangement further comprising a spring (34) or the like for creating a force acting on the piston means in a direction opposite to the main direction of the fuel flow, wherein in the arrangement the piston means and the body part delimit at least one third part (including channel 311) as the piston means is in the end adjacent the inlet opening or near it, the volume of the third part being dependent on the mutual positions of the piston means (30) and the body part (6).

Regarding claim 9, wherein the piston means and the space are cylindrically formed and together they form at least two separate sliding surfaces formed at different distances from the central axis of the piston means and the space.

Regarding claim 10, wherein when the piston means is in the end adjacent the inlet opening (361) the volume of the third part is at its smallest and as the piston means retracts a certain distance away from the end adjacent the inlet opening the volume of

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the third part increases and that as the piston means retracts beyond the certain distance, the third part and the first part of the space are combined.

Regarding claim 11, wherein the third part of the space is in continuous flow connections with the fuel inlet opening and/or the first part of the space.

Regarding claim 12, wherein the flow connection is achieved by means of a throttling channel or the like.

Regarding claim 13, wherein the space is cylindrical and it comprises at least two portions having different diameters, with the portion having the smaller diameter being in the end adjacent the inlet opening and that the piston means correspondingly comprising two portions having different diameters, with the portion having the smaller diameter being in the end adjacent the inlet opening and that both the longitudinal length of the portion of the piston means having the smaller diameter and the longitudinal length of the of the portion of the space having the smaller diameter are shorter than the length of the stroke of the piston means.

Regarding claim 14, wherein when the piston means is in the end adjacent the outlet opening the piston means joins the body part so that they together close the flow connection of fuel to the inlet opening.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references show fuel-limiting valves.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mahmoud Gimie whose telephone number is 571-272-

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4841. The examiner can normally be reached on Monday-Friday between 7 a.m. -3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen K. Cronin can be reached on 571-272-4536. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MG



**MAHMOUD GIMIE
PRIMARY EXAMINER**